Novel transition metal-catalysed syntheses of carboxylic acid derivatives

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Appendix

Anand, N., N. A. Owston, et al. (2007). "Ruthenium-catalysed conversion of oxime ethers into nitriles." Tetrahedron Letters **48**(44): 7761-7763.

The conversion of oxime ethers into nitriles has been achieved under neutral conditions using $Ru(CO)(PPh_3)_3H_2$ and the bidentate ligand Xantphos as the catalyst. DOI:10.1016/j.tetlet.2007.09.028

Owston, N. A., A. J. Parker, et al. (2007). "Highly efficient ruthenium-catalyzed oxime to amide rearrangement." Organic Letters **9**(18): 3599-3601.

A wide range of aldoximes has been converted into the corresponding amides using the ruthenium-based catalyst $Ru(PPh_3)_3(CO)H_2$/dppe/TsOH. The amides are generated in high yield and selectivity, with catalyst loading as low as 0.04 mol %. DOI: 10.1021/ol701445n

Owston, N. A., A. J. Parker, et al. (2007). "Iridium-catalyzed conversion of alcohols into amides via oximes." Organic Letters **9**(1): 73-75.

The iridium catalyst $[Ir(Cp^*)Cl_2]_2$ is effective for the rearrangement of oximes to furnish amides. The reaction has been combined with catalytic transfer hydrogenation between an alcohol and alkene to allow the conversion of alcohols into amides in a one-pot process. DOI: 10.1021/ol062549u

Owston, N. A., A. J. Parker, et al. (2008). "Oxidation of primary alcohols to methyl esters by hydrogen transfer." Chemical Communications(5): 624-625.

The oxidation of alcohols in the presence of methanol has been achieved using a ruthenium catalyst with crotononitrile as the hydrogen acceptor. DOI: 10.1039/b717073d